

**Lead Poisoning Prevention
Curriculum Project:
Crawford, Labette, and Montgomery
Counties**



Sponsored By:
The Kansas Childhood Lead Poisoning Prevention Program

Project Replication:
Tri-State Lead Poisoning Prevention Curriculum (1999-2000)

Facilitated by:
Southeast Kansas Education Service Center – Greenbush
Sherry Reed, Project Facilitator
School Improvement Coordinator

Fall 2002

Table of Contents

Section 1 Acknowledgements and Introduction

Acknowledgements	
Project Replication.....	4
Greenbush	5
Introduction	
Design of this project: Purpose of this guide	6
Suggestions for District Use	7
Curriculum Process Documents	
Mission Statement.....	8
Alignment to state standards.....	9
Resources used to write the curriculum.....	15
Statement Regarding KCLPPP Licensure, Certification and Accreditation, and Pre-Renovation	16

Section 2 Curriculum Framework

Strands Explanation	17
Strands Diagram.....	19
Problem Solving Model (Consequence Based)	20
Scope and Sequence PreK-12	23

Section 3 Curriculum/Activities/Assessments

Section 3a: Preschool – Kindergarten	
Curriculum	27
Activities	
Assessments	
Section 3b: Grades 1-2	
Curriculum	39
Activities	
Assessment	
Section 3c: Grades 3-5	
Curriculum	61
Activities	
Assessments	
Section 3d: Grades 6-8	
Curriculum	90
Activities	
Assessments	
Section 3e: Grades 9-12	
Curriculum	116
Health	
Science	
Consumer Science	
Activities	
Assessments	

Section 4: Appendix

“Pb Possum Play it Safe Around Lead” – This document should be copied front to back.

“Miner Mike” – Book for Children – This document should be copied front to back and folded in the middle to make a story book.

“Miner Mike” – The Big Book – This document can be printed in color.

Acknowledgements

Project Replication:

This project is a replication project of the Tri-State Lead Poisoning Prevention Curriculum Project of 2000. This replication was funded by the Kansas Department of Health and Environment through the Kansas Childhood Lead Poisoning Prevention Program (KCLPPP) Grant Program. A grant was awarded to the Southeast Kansas Education Service Center at Greenbush to replicate the curriculum project for school districts and health departments in Crawford, Labette, and Montgomery Counties.

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Original Project:

The original Tri-State Lead Poisoning Prevention Curriculum Project was supported actively by the following organizations:

ATSDR (funding)

EPA (funding)

Missouri Department of Health

Kansas Department of Health and Environment

Oklahoma State Department of Health

Southeast Education Service Center – Greenbush

MISSION STATEMENT

The Southeast Kansas Education Service Center provides equal educational opportunities for all students.

PHILOSOPHY

The cooperative nature of the Service Center affords school districts access to necessary educational services that would otherwise be unavailable, unaffordable or simply are offered most cost-effectively through a cooperative arrangement. Services are extended to the education community (i.e. administrators, teachers, school personnel, and parents) in the collaborative effort to provide quality education to all students.

Introduction

**Design Of This Project: Purpose of this Guide
Lead Poisoning Prevention Curriculum Guide
Tri-State Lead Poisoning Curriculum Project
Ottawa County, OK/Cherokee County, KS/Jasper County, MO
1999-2000**

**Replicated for the Kansas Childhood Poisoning Prevention Program:
Crawford, Labette, and Montgomery Counties
Fall 2002**

Project Background:

This Lead Poisoning Prevention Curriculum Guide reflects the work of 24 individuals and one consultant from different school districts from three different states, working as a team over a period of 18 months. This guide provided curriculum for the teaching and learning about lead poisoning in the Tri-State area and for the typical roles of curriculum in instruction and assessment, including activities based on the curriculum indicators, and a tool for monitoring the curriculum by the building principal. The Tri-State Lead Poisoning Curriculum Project Team worked with Sherry Reed, School Improvement Coordinator, from the Southeast Kansas Education Service Center to create the curriculum. The funding was made available through Environmental Protection Agency (EPA) by the Agency for Toxic Substances and Disease Registry (ATSDR). The project was funded by a bid-project award bid from the Oklahoma State Department of Health, and with some funding from the Cherokee and Jasper County Health Departments. The replication of the curriculum for three additional counties was funded by a grant from the Kansas Childhood Lead Poisoning Prevention Program (KCLPPP).

Design of this Project:

This guide combines traditional curriculum design with other designs, including the new paradigm for curriculum; standards-based curriculum design. By providing a congruent model to national and state standards in Science, Health, and Family and Consumer Science, this guide provides a strong connection for teachers to use when working to assure alignment to local school improvement goals. Also found in this guide is the important link to reading and writing, including the use of the Six Trait Analytical Writing Model.

Teachers using this guide will find activities for lead poisoning prevention as both regular activities, as well as formatted as holistic performance assessments, complete with scoring guides, also known as rubrics. The goal is that teachers have many options for communicating this information to students. The information is vitally important and affects the quality of life for all Tri-State area residents.

This guide was designed to be user friendly and provide classroom teachers with many tools for teaching this important information. Also found in the guide is a form to provide feedback to the members of the Tri-State Lead Curriculum Project Team, which is happy to replicate this project for three additional Kansas counties.

Suggestions for Use of this Curriculum:

This curriculum may be used in its entirety or in pieces. The curriculum was developed to be used specifically in the Tri-State area. This does not preclude the use of this curriculum in other similar areas. In fact, we encourage the use of this curriculum to prevent lead poisoning for all children. Please share this document with classroom teachers, parents, PTA/PTO, Site Council Members, Local Extension Agents, or any other interested group that can further the cause for preventing lead poisoning in our communities.

Suggestions for Using the Grade Level/Course Activities:

1. Develop a “theme” week: Lead Poisoning Prevention Week. Focus on Lead Education and involve the students to brainstorm activities and ideas. Every grade level/course should do different activities (please see other activities in this curriculum). Also, collaboration between levels will help the older and younger students in your school to teach each other. Every grade level and/or course in this curriculum includes large and small activities. You may wish to include a large activity as a culminating activity and demonstration of skills learned for the entire week. Always involve parents in these activities, especially the culminating activity at the end of the week. It is also a good idea to include the media (newspaper, TV reporters, etc.) to help raise awareness about lead poisoning prevention education in your area.
2. Integrate the activities into regular units on a daily basis. These tasks were developed to be used and even if the teacher or administration does not see fit to use the entire curriculum, it is hoped that individual activities will be pulled to raise awareness about lead poisoning prevention. Curriculum indicators are tied to state standards from all three states in this project. Therefore, if the teacher is teaching this material, it meets expectations established by the standards from all three states.
3. The grade level curriculum pages are left blank for teacher notes and documentation while teaching the curriculum. Teachers may document activities used and assessments administered to provide ease of monitoring the curriculum.

Curriculum Process Documents

Mission Statement

The mission of the Tri-State (Oklahoma, Kansas, and Missouri) Lead Poisoning Prevention Curriculum is to provide materials for instruction to help all individuals in the Tri-State area to live lead safe lives.

Alignment to State Standards

The three states involved in this project are moving to a Standards-based approach to curriculum alignment. Local districts are expected to align all local curriculum to state standards, and therefore state assessments. The following matrix illustrates the alignment of the indicators in the Lead Poisoning Prevention Curriculum the Kansas Science Standards.

The Lead Poisoning Prevention Curriculum is completely aligned to the Kansas Science Standards. The alignment codes are established as follows:

KCLPPP Lead Poisoning Curriculum Project
Alignment to Standards (Kansas Science Standards)
Fall 2002

Kansas Standards	Strand	Grade Levels	Code	The learner will:
2 SCI 1.1.4 2 SCI 1.1.5 4 SCI 6.2.2	Environment	Pre-K 1-2 3-5	E-1	List or name the primary sources of lead in a child's environment (paint, dust, and soil).
8 SCI 6.2.1 12 SCI 6.4.3	Environment	6-8 9-12	E-2	Describe the likelihood that their environment contains lead-based paint due to the age of the building.
2 SCI 1.1.4 2 SCI 2.2.5 4 SCI 6.2.2 12 SCI 6.4.3	Environment	1-2 3-5 6-8 9-12	E-3a	Identify sources of lead in their own environment (paint chips, dirt, chat piles, dust, car exhaust, long burning candles [with lead in the wick], hobbies and crafts involving melted lead.)
8 SCI 1.1.2 12 SCI 6.4.3	Environment	6-8 9-12	E-3b	Identify sources of lead in their own environment (add to the above: smoke from smelters/industry).
2 SCI 6.1.1 4 SCI 6.1.1 8 SCI 6.3.1 12 SCI 6.1.1	Environment	Pre-K 1-2 3-5 6-8 9-12	E-4	Explain the importance of keeping non-food items out of the mouth (e.g.: paint chips, dirt, toys, hands, gravel/chat, jewelry [ceramic beads, metal necklaces] and snow).
2 SCI 1.1.5 4 SCI 6.1.1 12 SCI 6.4.3	Environment	Pre-K 1-2 9-12	E-5	Identify safe places to play away from sources of lead (grass covered, cement or asphalt, beyond the drip line of the house).
4 SCI 6.1.1 8 SCI 6.3.1 12 SCI 6.4.3	Environment	3-5 6-8 9-12	E-6	Explain the lead hazards associated with different places (i.e.: busy streets, chat piles, buildings being remodeled).
8 SCI 6.3.1 12 SCI 6.4.3	Environment	6-8 9-12	E-7	Describe the impact of lead mine tailings on the Tri-state mining district, including the emissions of smelters. (Smelters separate the lead from tailings).
8 SCI 1.1.3 8 SCI 6.1.3 12 SCI 6.4.2	Environment	6-8 9-12	E-8	Identify household items for potential lead content: painted surfaces, window sills, door frames, porch or stair railings, play pens, cribs, painted wooden toys, newspapers, (bright and shiny) comic books, imported candy wrappers, glazed pottery, and magazines.

KCLPPP Lead Curriculum Project – 2002 Alignment to Standards

KCLPPP Lead Poisoning Curriculum Project
 Alignment to Standards (Kansas Science Standards)
 Fall 2002

Kansas Standards	Strand	Grade Levels	Code	The learner will:
	Environment	9-12	E-9	Explain why remodeling a house built before 1978 could include additional needed precautions relative to lead paint.
12 SCI 6.4.2	Environment	3-5 6-8 9-12	E-10	Identify steps to take to reduce lead exposure if there are lead (water) pipes in the home. (Water supply in the Tri-County area is considered safe. However, wells may be at risk and should be tested.)
4 SCI 6.1.2 8 SCI 6.3.1 12 SCI 6.4.2	Environment	6-8 9-12	E-11	Identify the elements that make a child at high risk for lead exposure.
8 SCI 6.3.1 12 SCI 6.4.2	Housekeeping	6-8 9-12	HK-1	Explain the importance of clean floors and carpets with a crawling baby.
FACS	Housekeeping	6-8 9-12	HK-2	Explain the impact of wet mopping and wet dusting at least one time per week.
FACS	Housekeeping	6-8 9-12	HK-3	Household items used in hobbies involving lead should not be used for any other purpose.
FACS	Hygiene	Pre-K 1-2 3-5 6-8 9-12	HY-1	Explain the importance of washing hands before eating, before bedtime, after playing with pets, and after playing or working outside.
8 SCI 6.1.2 12 SCI 6.1.1 FACS	Hygiene	6-8 9-12	HY-2	Explain the importance of washing toys, pacifiers, and other items that children often put into their mouths.
2 SCI 6.1.2 4 SCI 6.1.2 8 SCI 6.1.2 12 SCI 6.1.1	Hygiene	Pre-K 1-2 3-5 6-8 9-12	HY-3	Understand the role of wiping feet to remove dust.

KCLPPP Lead Curriculum Project – 2002 Alignment to Standards

KCLPPP Lead Poisoning Curriculum Project
Alignment to Standards (Kansas Science Standards)
Fall 2002

Kansas Standards	Strand	Grade Levels	Code	The learner will:
2 SCI 6.1.2 4 SCI 6.1.2 8 SCI 6.1.2 12 SCI 6.1.1	Lead Poisoning	Pre-K 1-2 3-5 6-8 9-12	L-1	Know at which age children are most at risk for lead poisoning (6 months – 6 years) and why.
2 SCI 6.1.1 4 SCI 6.1.2 8 SCI 3.1.3 12 SCI 3.6.5	Lead Poisoning	1-2 3-5 6-8 9-12	L-2	Know that lead poisoning can only be diagnosed with a blood test.
4 SCI 6.1.2 8 SCI 3.1.3	Lead Poisoning	3-5 6-8	L-3	List and describe some of the possible symptoms of lead poisoning in a child, noting that often there are no apparent symptoms.
2 SCI 6.1.1	Lead Poisoning	Pre-K 1-2	L-4	Know that lead is a poison that can make someone very sick, even though a person may show no symptoms.
12 SCI 3.6.5	Lead Poisoning	9-12	L-5	Explain the importance of an annual blood test to screen for lead poisoning.
8 SCI 3.1.3 12 SCI 6.1.1	Lead Poisoning	6-8 9-12	L-6	Describe lead poisoning as the number one preventable environmental pediatric health problem in the USA today.
4 SCI 4.1.1 8 SCI 6.3.2 12 SCI 4.1.1	Lead Poisoning	3-5 6-8 9-12	L-7	Describe the characteristics of lead as a metal, and why it is dangerous and prevalent in the Tri-state mining district (purposes and value as a resource).
12 SCI 3.6.5 FACS	Lead Poisoning	9-12	L-8	Explain the importance of prenatal blood testing in relationship to lead poisoning.
8 SCI 3.1.1 12 SCI 3.6.5	Lead Poisoning	6-8 9-12	L-9	Describe the impact of lead poisoning on the body's red blood cells.
12 SCI 3.6.5 FACS	Lead Poisoning	9-12	L-10	Identify the dangers of lead exposure to an unborn child in pregnancy.
8 SCI 3.1.1 12 SCI 3.6.5	Lead Poisoning	6-8 9-12	L-11	List and explain the effects of lead poisoning at low and high levels of lead contamination.
2 SCI 6.1.4 12 SCI 3.6.5	Lead Poisoning	1-2 9-12	L-12	List and explain common symptoms of lead poisoning.
8 SCI 3.1.1 12 SCI 3.6.5	Lead Poisoning	6-8 9-12	L-13	Explain the confusion caused by the symptoms of lead poisoning, including that many children will show no symptoms at all.

KCLPPP Lead Curriculum Project – 2002 Alignment to Standards

KCLPPP Lead Poisoning Curriculum Project
Alignment to Standards (Kansas Science Standards)
Fall 2002

Kansas Standards	Strand	Grade Levels	Code	The learner will:
4 SCI 6.1.2 12 SCI 3.6.5	Lead Poisoning	3-5 9-12	L-14	Describe lead poisoning as a condition.
12 SCI 3.6.5	Lead Poisoning	9-12	L-15	Explain the societal implications of lead poisoned children.
8 SCI 3.1.1 12 SCI 3.6.5	Lead Poisoning	6-8 9-12	L-16	Explain the effects of lead poisoning on the neurological system.
12 SCI 3.6.5	Lead Poisoning	9-12	L-17	Describe the interference of red blood cell (heme) production caused by lead poisoning.
12 SCI 2.3.2	Lead Poisoning	9-12	L-18	Describe the chemistry of lead.
2 SCI 6.1.3	Nutrition	Pre-K 1-2	N-1	Identify foods that make up a balanced, healthy diet.
8 SCI 6.1.2 12 SCI 6.1.4	Nutrition	6-8 9-12	N-2	Explain the importance of a well-nourished diet for children, especially in environments with high levels of lead content.
8 SCI 6.1.2 12 SCI 6.1.4 FACS	Nutrition	6-8 9-12	N-3	Explain the impact of foods that are high in fat in diets of different age groups of children.
4 SCI 6.1.3 8 SCI 6.1.2 12 SCI 6.1.4	Nutrition	3-5 6-8 9-12	N-4	Describe the effect an empty stomach has on lead absorption.
2 SCI 6.1.3 4 SCI 6.1.3 8 SCI 6.1.2 12 SCI 6.1.4	Nutrition	Pre-K 1-2 3-5 6-8 9-12	N-5	Explain the need for nutritious snacks between meals, especially for children between 6 months and 6 years of age.
8 SCI 6.1.2 12 SCI 6.1.4	Nutrition	6-8 9-12	N-6	Analyze the effect of a diet low in calcium and iron on children in high lead content environments.

KCLPPP Lead Curriculum Project – 2002 Alignment to Standards

KCLPPP Lead Poisoning Curriculum Project
 Alignment to Standards (Kansas Science Standards)
 Fall 2002

Kansas Standards	Strand	Grade Levels	Code	The learner will:
2 SCI 6.1.3 4 SCI 6.1.3 8 SCI 6.1.2 12 SCI 6.1.4	Nutrition	Pre-K 1-2 3-5 6-8 9-12	N-7	Using the food pyramid, select healthy foods for daily intake that contain iron, are high in calcium, and are low in fat.
8 SCI 6.1.2 12 SCI 6.1.4 FACS	Nutrition	6-8 9-12	N-8	Follow the steps of careful food preparation, including food storage, to avoid further lead contamination. (Avoid using containers made from leaded crystal and glazed pottery).
2 SCI 6.1.3 4 SCI 6.1.3 8 SCI 6.1.2 12 SCI 6.1.4	Nutrition	1-2 3-5 6-8 9-12	N-9	Wash vegetables and fruits carefully before food preparation and eating.
2 SCI 6.1.1 4 SCI 6.1.1	Prevention	Pre-K 1-2 3-5	P-1	Name 5 ways to keep lead out of the body (wash your hands, play only on grass covered or cement/asphalt covered play areas, don't put non-food items in your mouth, eat a healthy diet, clean your house).
2 SCI 6.1.1 4 SCI 6.1.1 8 SCI 6.1.2 12 SCI 3.6.5	Prevention	1-2 3-5 6-8 9-12	P-2	List ways that lead poisoning can be prevented.
8 SCI 6.3.1 12 SCI 3.6.5	Prevention	6-8 9-12	P-3	Outline the steps that can be taken to reduce environmental exposure to lead.
8 SCI 6.3.1 12 SCI 3.6.5 FACS	Prevention	6-8 9-12	P-4	Identify the elements that make a child at high risk for lead exposure.

KCLPPP Lead Curriculum Project – 2002 Alignment to Standards

Resources Used To Write The Curriculum

Bright Futures: An Action Guide for Families of Children with Lead Poisoning, Curriculum Visuals, Childhood Lead Poisoning Branch, 5801 Christie Avenue, Suite 600, Emeryville, CA 94608, (510) 450-2453.

Child Care Lead Poisoning Prevention, California Curriculum for Child Care Centers.

Early Childhood Lead Poisoning Prevention Lead Curriculum, By Sam Umscheid, Wyandotte County Health Department, Wyandotte County Kansas, 619 Ann Avenue, Kansas City, KS 66101-3099, (913) 321-4803.

Leadosaurus Says, Be Alert, Lead Can Hurt! Color and Activity Book, Missouri Department of Health, Bureau of Epidemiology, Childhood Lead Poisoning Prevention Program, PO Box 570, Jefferson City, MO 65102, (573) 526-4911.

Lead In Your Home: A Parents' Reference Guide; United States Environmental Protection Agency, Washington DC, Prevention, Pesticides, and Toxic Substances, (7404), EPA 747-B-98-002, June 1998.

Lead Poisoning Prevention: A Non-Medical Professional's Guide to Teaching Lead Poisoning Prevention, Pamphlet, Cherokee County Health Department, Columbus, KS.

Lead Poisoning Prevention: A Parent's Guide, Prevention, Pamphlet, Cherokee County Health Department, Columbus, KS.

Lead Poisoning Prevention Curriculum for Preschool Children, New York State Department of Health, Childhood Lead Poisoning Prevention Program, Bureau of Child and Adolescent Health, Empire State Plaza, Corning Tower Building, Room 209, Albany, NY 12237-0618, (518) 473-4602.

Missouri's Framework for Curriculum Development in Science K-12; Missouri Department of Elementary and Secondary Education, Robert E. Bartman, Commissioner of Education.

Missouri's Framework for Curriculum Development in Science K-12; Missouri Department of Elementary and Secondary Education, Robert E. Bartman, Commissioner of Education.

My Book About Staying Safe Around Lead, Oklahoma Department of Environmental Quality, (405) 290-8247.

Pb Possum Plays it Safe Around Lead, Color and Activity Booklet, Produced through a joint effort with the Joplin, Missouri Health Department, the Jasper County, Missouri Health Department, the Jasper County EPA Superfund Task Force, the Joplin R-8 School District, the Missouri Department of Health, and the Agency for Toxic Substances and Disease Registry (ATSDR).

Priority Academic student Skills; Health and Safety Education, Standards from Oklahoma State Department of Education.

Priority Academic Student Skills; Science Education, Standards from Oklahoma State Department of Education.

What Everyone Should Know About Lead Poisoning, Pamphlet from Oklahoma Department of Environmental Quality, (405) 290-8247.

Statement Regarding KCLPPP Licensure, Certification and Accreditation, and Pre-Renovation Education

KCLPPP Licensure for companies and certification for individuals center on three areas:

- Abatement
- Lead Inspections
- Risk Assessment

A set of KCLPPP Approved courses is available, with requirements in education outlined for each level.

Please contact Tom Morey of KCLPPP at 785-368-7154 for future information.